

REMARKS

By this amendment, independent claims 1-14 have been canceled in favor of new claims 15-19. Currently, claims 15-19 are before the Examiner for consideration on their merits.

New claim 15 defines a wafer having certain characteristics, and particularly a surface density of crystal originated particles of not more than 15 counts/cm² with a particle size of not less than 0.12 μ m. Claim 15 also defines the wafer and its surface portion as being grown using a particular set of processing conditions to produce the claimed low particle density wafer body and surface portion.

It is believed that the cancellation of claims 1-14 overcomes the new matter rejection. Moreover, the submission of new claims 15-19 does not introduce new matter since the process conditions were previously found in the claims, and the recitation of the removal of material due to cleaning is an inherent aspect of the invention. The specification describes the wafer as being repeatedly cleaned while still exhibiting the desirable particle density and size. This cleaning step clearly implies that material is removed, and that no new matter is introduced by such an amendment. This material removal is described in Ryuta article discussed in the response filed on September 15, 2005 as well and this further supports the contention that the material removal aspect of claim 15 is not new matter.

Claim 15 also recites that the thus-formed wafer and surface is of such structure that the claimed count and particle size remains even after a portion of the surface has been removed due to repeated cleanings. This contributes structure to the claim since

it defines a surface portion that maintains the claimed count and particle size even after material removal; thus defining more than a count and particle size characteristic on just the surface of the wafer.

It is now respectfully submitted that the cancellation of claims 1-14 and submission of claims 15-19 places this application in condition for allowance since the previous prior art rejection would be overcome by the submission of claims 15-19.

In the previous prior art rejection, the Examiner's position had been consistently that Tamatsuka showed a structure that is the same as that claimed. It is now contended that claim 15 defines a wafer that is not the same as Tamatsuka. First, Applicants would like to incorporate by reference the previously made arguments regarding the fact that the claimed wafer is not the same as Tamatsuka, see especially the response dated September 15, 2005.

Second and to reiterate, it is contended that the claimed wafer has a structure which allows repeated cleanings to occur without an adverse affect on the wafer quality. i.e., the count of particles greater than 0.12 μm is still low in spite of the cleanings. As stated above, this translates into a surface that still produces an acceptable particle density and size despite surface material removal. The feature that the count is still low in spite of repeated cleanings is shown in the specification, see Table 1 and Figure 3.

In this regard, particular attention should be made to the arguments made in the September 15, 2005 response regarding the Ryuta article and discovery of COP defects

originating from the crystal growing process and the need to address such defects.

This is the very problem addressed and solved by the instant invention.

Also, it is important to consider the prior response in terms of the teachings of the Matsushita article. This article shows that wafers that are subjected to annealing for the purpose of COP reduction do not solve the problem of undesirable levels of particle density and size when surface material is removed due to repeated cleanings. The Matsushita article clearly points this out, and this phenomenon can be inferred to occur in the wafer of Tamatsuka as pointed out in the previous response. This demonstrates that the annealed wafers of the prior art are not only different than the wafer of the instant invention, but also inferior.

In light of the arguments made above, the response of September 15, 2005 and the submission of new claims 15-19, it is respectfully submitted that Tamatsuka cannot anticipate claim 15.

Moreover, there is no basis to conclude that the invention would be an obvious modification of Tamatsuka since the invention goes about solving the problem of defects in the wafer in an entirely different manner. The only way to conclude obviousness would be the hindsight reconstruction of the prior art in light of Applicants' disclosure, and such a stance could not be sustained on appeal.

Accordingly, the Examiner is respectfully requested to examine this application in light of this Amendment, and promptly pass claims 15-19 onto issuance.

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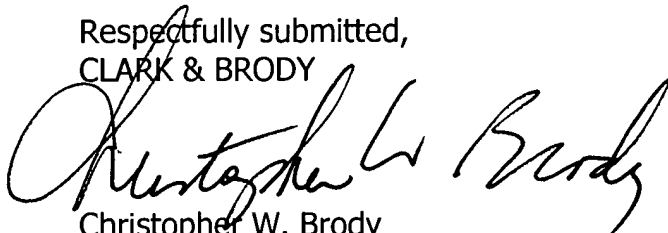
If the Examiner believes that a further interview with Applicants' attorney would help expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the outstanding Office Action of March 15, 2005.

Again, reconsideration and allowance of this application is respectfully requested.

Applicants petition for a three month extension of time. A check to cover the petition fee of \$1,020.00 is enclosed. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,
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